



Test Report No.:
GJW2023-0754-RF2

TEST REPORT

IC : 24728-SKIWB921AU1
Applicant : Guangzhou Shikun Electronics Co., Ltd
Product Name : Module
Mode No. : SKI.WB921AU.1

CVC Testing Technology Co., Ltd.

Applicant		Name: Guangzhou Shikun Electronics Co., Ltd Address: NO.6 Liankun Road,Huangpu District,Guangzhou,China	
Manufacturer		Name: Guangzhou Shikun Electronics Co., Ltd Address: NO.6 Liankun Road,Huangpu District,Guangzhou,China	
Equipment Under Test		Product Name : Module Model No. : SKI.WB921AU.1 Trade mark : / Serial no. : B4ADA3CE77D8 Sampling : —	
Date of Receipt.	2023.03.10	Date of Testing	2023.03.10~2023.03.13
Test Specification		Test Result	
RSS-247 Issue 2 RSS-Gen Issue 5 ANSI C63.10 (2013)		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: 2023.06.07	
Tested by: Lu Wei Ji Lu Wei Ji		Reviewed by: Xu Zhenfei Xu Zhenfei	Approved by: Chen Hua Wen Chen Hua Wen
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC .			

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1. General Product Information

1.1 General information

Product Name	Module	
Model No.	SKI.WB921AU.1	
Power Supply	DC 3.3V	
Serial Number(SN)	B4ADA3CE77D8	
Power Supply	Adapter	/
	Battery	/
Antenna Type	External Antenna	
Antenna Connector	A detachable antenna	
Antenna Gain	3.5 dBi (provided by client)	
Beamforming gain	0 dBi (provided by client)	
Frequency Range	Bluetooth(Low Energy): 2402~2480MHz IEEE 802.11b/g/n/ax(20MHz): 2412~2462MHz IEEE 802.11n/ax(40MHz): 2422~2452MHz	
Channel Number	Bluetooth(Low Energy):40 Channels IEEE 802.11b/g/n/ax(20MHz): 11 Channels IEEE 802.11n/ax(40MHz): 7 Channels	
Type of Modulation	Bluetooth(Low Energy):GFSK IEEE 802.11b: DSSS (CCK,DQPSK,DBPSK); IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK); IEEE 802.11n(HT20 and HT40) : OFDM (1024QAM,256QAM,64QAM, 16QAM,QPSK,BPSK); IEEE 802.11ax(HE20 and HE40) : OFDM (1024QAM,256QAM,64QAM, 16QAM,QPSK,BPSK).	
Max. Conducted Power	Bluetooth(Low Energy):15.92 dBm WIFI 2.4GHz: 17.10 dBm	
Operate Temp.Range	-40°C to +125°C	

Note:

1. The information of the EUT is declared by the manufacturer.
2. The laboratory is not responsible for the product technical specification provided by the client.
3. Note: This module (the module number is SKI.WB921AU.1) has passed the certification. The module plans to add five models of antennas, as shown in the table below. In the report, only the radiated emission is tested, and the antenna used is A100-0062. Other test items and test data will refer to the report of the module (IC ID:24728-SKIWB921AU1)

Antennas	AG-011320-0679	3D0504BK07-001	SLK-KG-B3DBS-SMA(P)	A100-0062	SH-230317-0001
Gain	3.0dBi	3.5dBi	3.5dBi	3.5dBi	3.08dBi

4. When installed in the host product, the radio can support “hotspot” features and operate as a master device only working at WiFi 2.4GHz (2412MHz-2462MHz) and WIFI 5GHz (5180MHz-5240MHz, 5745MHz-5825MHz).

2. Test Sites

2.1 Test Facilities

The tests and measurements refer to this report were performed by RF testing Lab. of CVC Testing Technology Co., Ltd.

Add.: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou,Guangdong,510663, People's Republic of China

Telephone : +86-20-32293888

Fax : +86-20-32293889

FCC(Test firm designation number: CN1282)

IC(Test firm CAB identifier number: CN0103)

2.2 Description of Non-standard Method and Deviations

The testing and measurement methods used in this report are applied by all standard methods. Not any non-standard method or deviation from the used standards was used.

2.3 List of Test and Measurement Instruments

Refer to **Appendix E**.

3. Test Configuration

3.1 Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Test Mode	Antenna Delivery	Test Channel
Bluetooth(Low Energy)	2TX / 2RX	0,19,39
IEEE 802.11b TX mode	2TX / 2RX	1,6,11
IEEE 802.11g TX mode	2TX / 2RX	1,6,11
IEEE 802.11n 2.4GHz 20MHz TX mode	2TX / 2RX	1,6,11
IEEE 802.11n 2.4GHz 40MHz TX mode	2TX / 2RX	3,6,9
IEEE 802.11ax 2.4GHz 20MHz TX mode	2TX / 2RX	3,6,9
IEEE 802.11ax 2.4GHz 40MHz TX mode	2TX / 2RX	3,6,9

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate		
	Antenna 1	Antenna 2	MIMO
Bluetooth(Low Energy)	1	1	/
IEEE 802.11b TX mode	1	1	/
IEEE 802.11g TX mode	6	6	/
IEEE 802.11n 2.4GHz 20MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11n 2.4GHz 40MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11ax 2.4GHz 20MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11ax 2.4GHz 40MHz TX mode	MCS 0	MCS 0	MCS 8

Test Items	Test Antennas	Test Modes	Test Channels
Radiated Emissions	MIMO/ Antenna 1	IEEE 802.11ax 20/ Bluetooth(Low Energy)	1/ 39
Radiated Emissions (Band Edge)	MIMO Antenna 1	IEEE 802.11ax 20/ Bluetooth(Low Energy)	1,11/ 0,39
Maximum conducted output power	Antenna 1/ Antenna 2/ MIMO	Bluetooth(Low Energy)/ IEEE 802.11b/ IEEE 802.11g/ IEEE 802.11n 20/ IEEE 802.11n 40/ IEEE 802.11ax 20/ IEEE 802.11ax 40	0,19,39/ 1,6,11/ 1,6,11/ 1,6,11/ 3,6,9/ 1,6,11/ 3,6,9

4. Summary of measurement results

Summary of measurements of results	Clause in IC rules	Verdict	Note
Radiated Emissions	RSS-Gen 8.9	PASS	/
Maximum conducted output power	RSS-247-5.4(4)	PASS	/

5. Measurement procedure

5.1 Radiated Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement:

The EUT was setup and tested according to ANSI C63.10, 2013.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn

Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

Limits:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

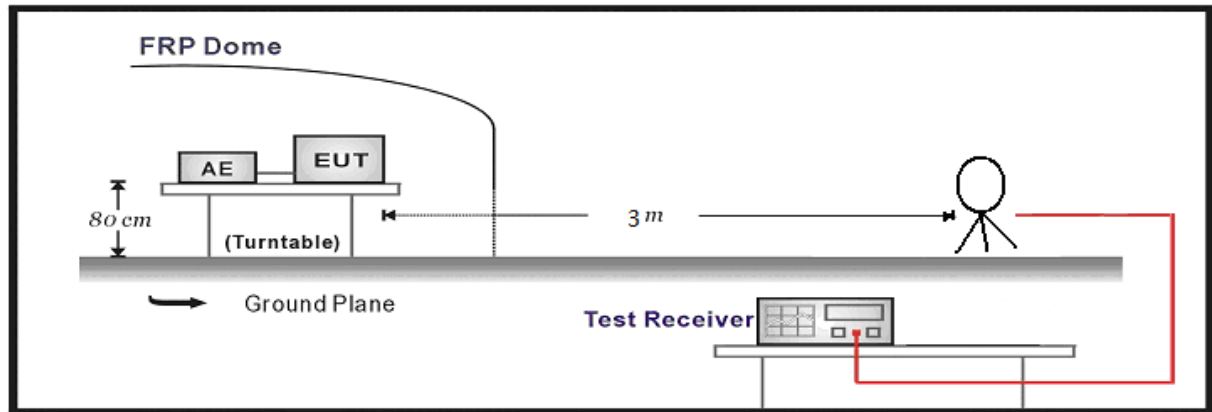
Frequency	Limit (dBμV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Level
88MHz-216MHz	43.5	Quasi-peak Level
216MHz-960MHz	46.0	Quasi-peak Level
960MHz-1GHz	54.0	Quasi-peak Level
Above 1GHz	54.0	Average Level
	74.0	Peak Level

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

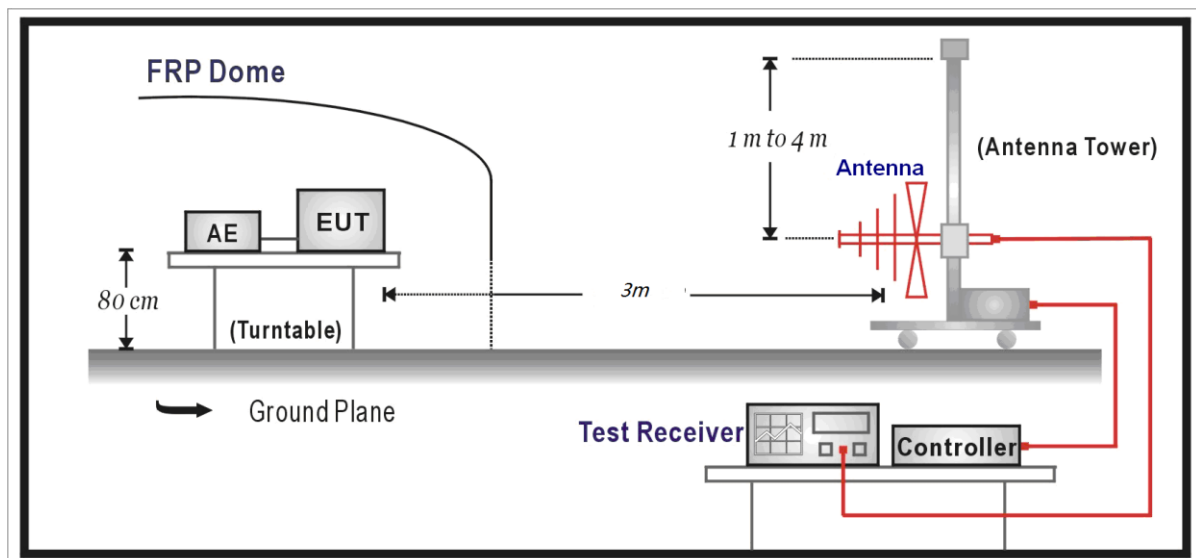
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.
12.57675-12.57725	322-335.4	3600-4400	/
13.36-13.41	/	/	/

Test Setup:

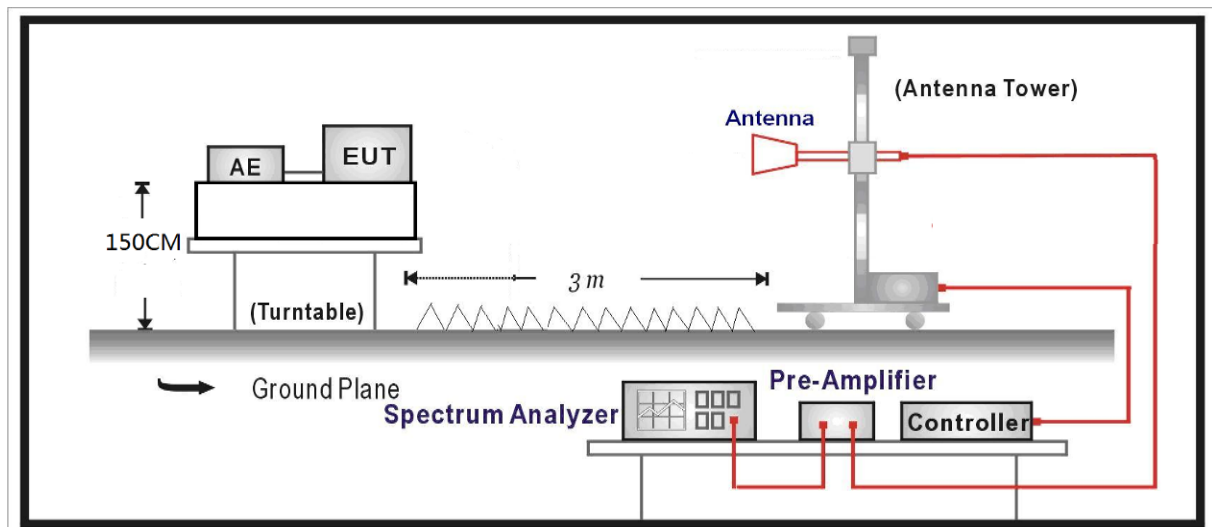
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



Measurement Data:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Level = Reading - Factor

Factor = Preamplifier Factor – Antenna Factor – Cable Loss

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

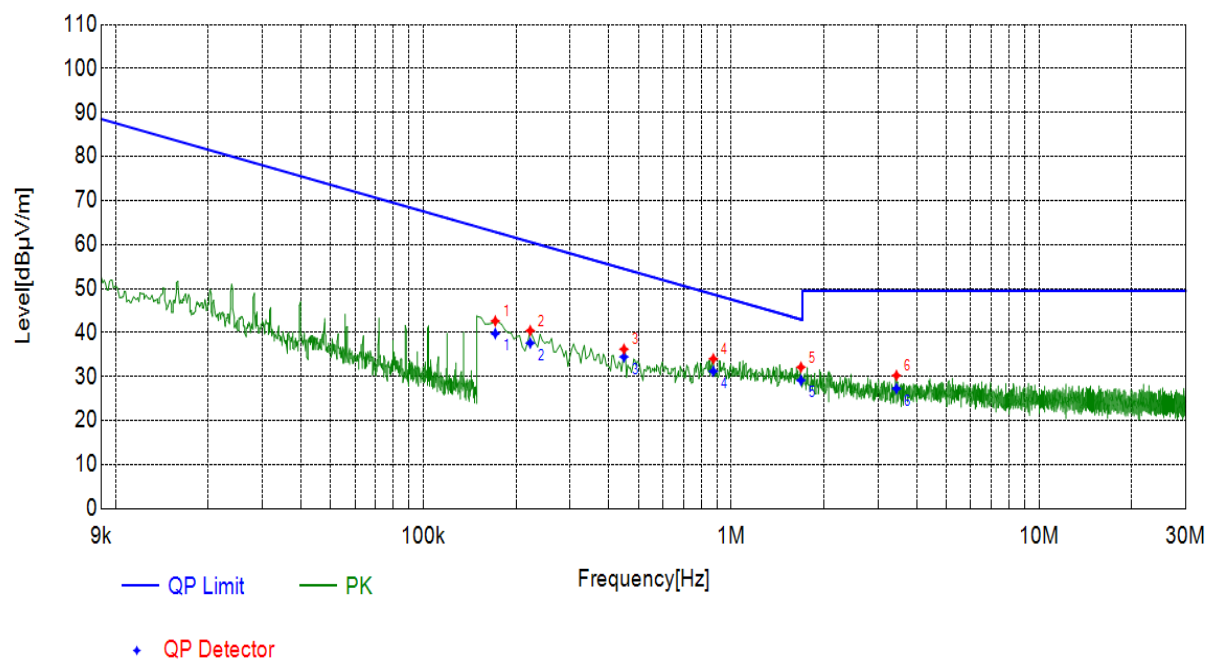
Test Results:

SPURIOUS EMISSIONS:

During the test, the Radiates Emission from 9KHz to 30MHz was performed in all modes with all channels and all antenna. 802.11ax20, Channel 1,MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

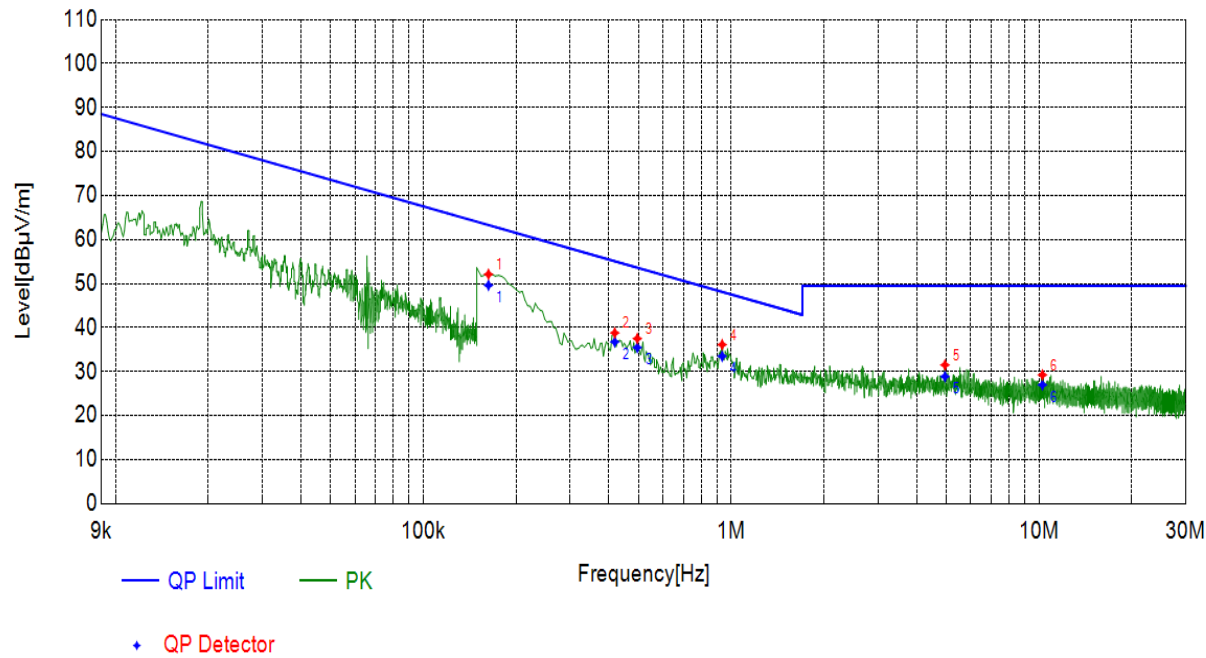
Radiated Emission	9KHz-30MHz
Polarity	X axis
Test channel	Worst-Case

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
0.1713	X axis	20.40	39.78	62.85	23.07	100	150	PASS
0.2225	X axis	20.37	37.61	60.57	22.96	100	90	PASS
0.4485	X axis	20.41	34.47	54.47	20.00	100	250	PASS
0.8750	X axis	20.59	31.21	48.68	17.47	100	320	PASS
1.6854	X axis	20.73	29.14	43.00	13.86	100	40	PASS
3.4425	X axis	20.99	27.26	49.50	22.24	100	0	PASS



Radiated Emission	9KHz-30MHz
Polarity	Y axis
Test channel	Worst-Case

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
0.1628	Y axis	20.41	49.61	63.29	13.68	100	270	PASS
0.4187	Y axis	20.32	36.75	55.07	18.32	100	300	PASS
0.4955	Y axis	20.56	35.47	53.60	18.13	100	320	PASS
0.9347	Y axis	20.56	33.49	48.11	14.62	100	90	PASS
4.9480	Y axis	21.13	28.87	49.50	20.63	100	270	PASS
10.2578	Y axis	20.95	26.98	49.50	22.52	100	230	PASS

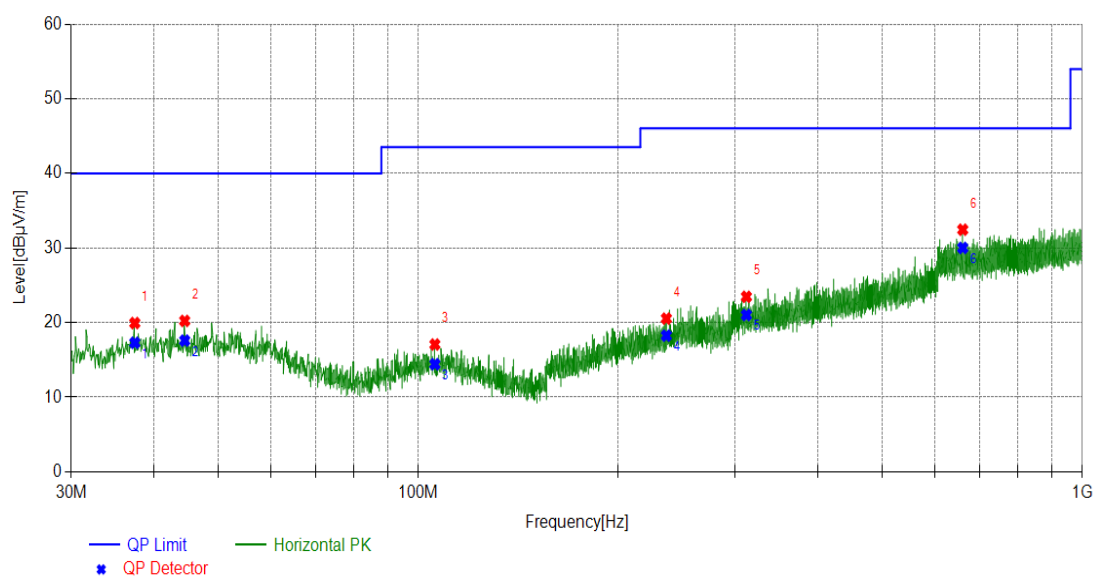


WIFI:

During the test, the Radiates Emission from 30MHz to 40GHz was performed in WIFI all modes with all channels and all antenna. 802.11ax20, Channel 1,MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

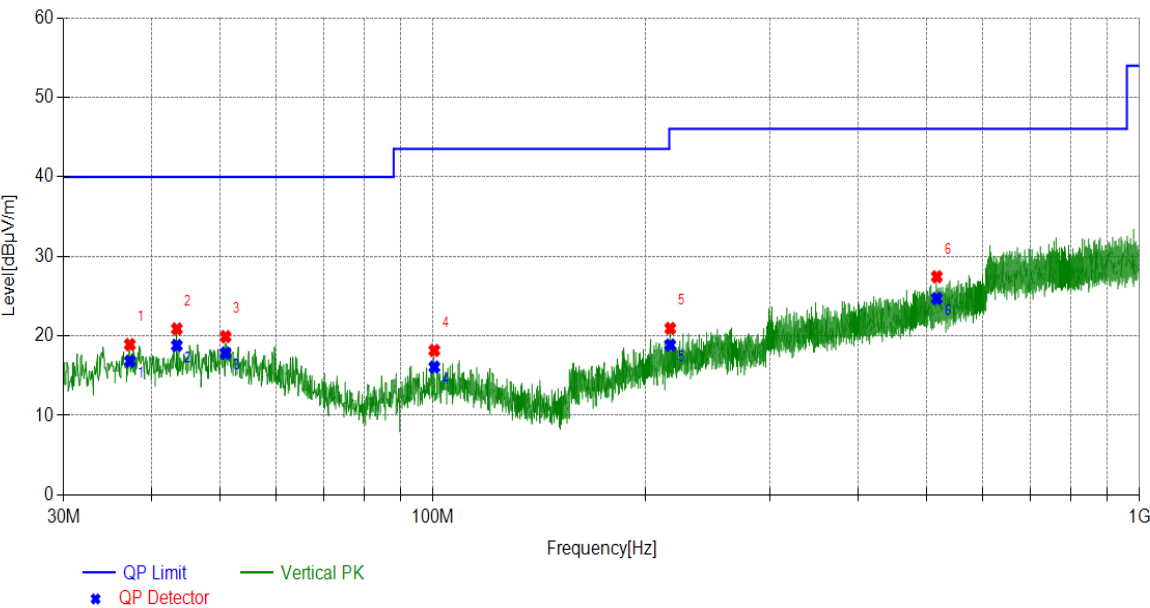
Radiates Emission			30M~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
37.4181	Horizontal	13.39	6.55	19.94	40.00	20.06	PK	100	20	PASS
44.4938	Horizontal	14.21	6.02	20.23	40.00	19.77	PK	100	20	PASS
105.9498	Horizontal	12.43	4.64	17.07	43.52	26.45	PK	100	40	PASS
236.4510	Horizontal	14.28	6.26	20.54	46.02	25.48	PK	100	30	PASS
312.1154	Horizontal	15.54	7.92	23.46	46.02	22.56	PK	100	40	PASS
660.9365	Horizontal	21.78	10.67	32.45	46.02	13.57	PK	100	20	PASS

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
37.4181	Horizontal	13.39	17.30	40.00	22.70	130	20	PASS
44.4938	Horizontal	14.21	17.59	40.00	22.41	170	20	PASS
105.9498	Horizontal	12.43	14.43	43.52	29.09	190	40	PASS
236.4510	Horizontal	14.28	18.26	46.02	27.76	220	30	PASS
312.1154	Horizontal	15.54	21.02	46.02	25.00	240	40	PASS
660.9365	Horizontal	21.78	30.01	46.02	16.01	320	20	PASS

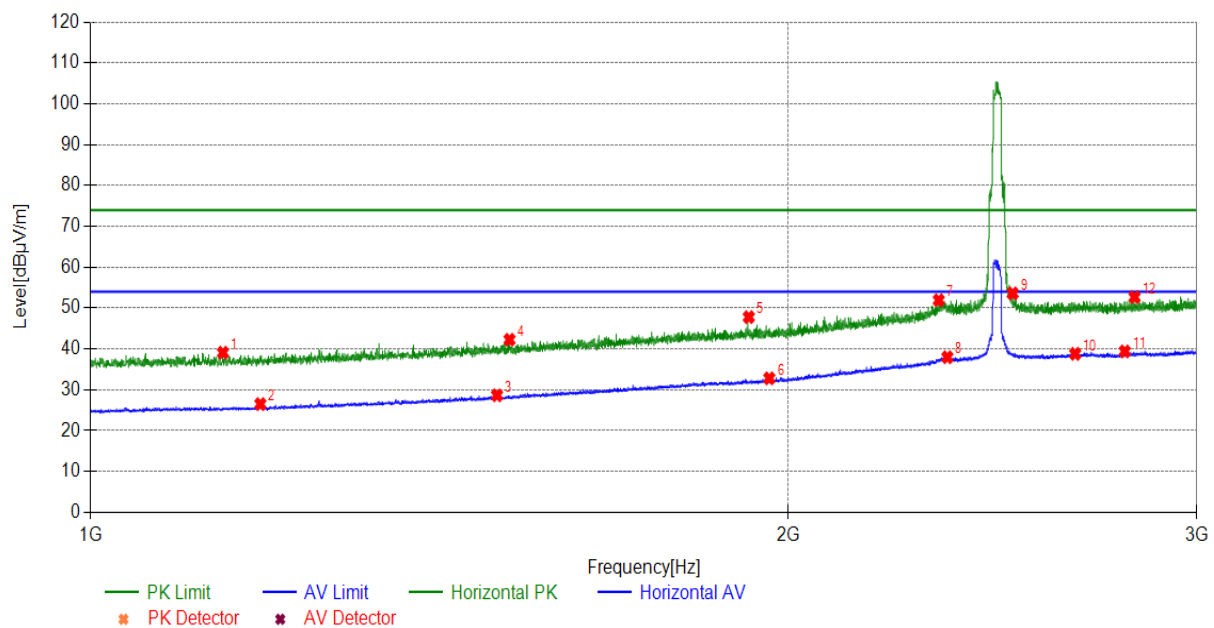


Radiates Emission			30M~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
37.2469	Vertical	13.35	5.56	18.91	40.00	21.09	PK	100	30	PASS
43.4096	Vertical	14.15	6.73	20.88	40.00	19.12	PK	100	30	PASS
50.8848	Vertical	14.42	5.49	19.91	40.00	20.09	PK	100	30	PASS
100.4718	Vertical	12.42	5.75	18.17	43.52	25.35	PK	100	20	PASS
216.7645	Vertical	13.33	7.61	20.94	46.02	25.08	PK	100	30	PASS
516.7975	Vertical	19.48	7.96	27.44	46.02	18.58	PK	100	30	PASS

Final Data List									
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail	
37.2469	Vertical	13.35	16.82	40.00	23.18	114	30	PASS	
43.4096	Vertical	14.15	18.79	40.00	21.21	156	30	PASS	
50.8848	Vertical	14.42	17.82	40.00	22.18	190	30	PASS	
100.4718	Vertical	12.42	16.08	43.52	27.44	222	20	PASS	
216.7645	Vertical	13.33	18.85	46.02	27.17	260	30	PASS	
516.7975	Vertical	19.48	24.71	46.02	21.31	338	30	PASS	

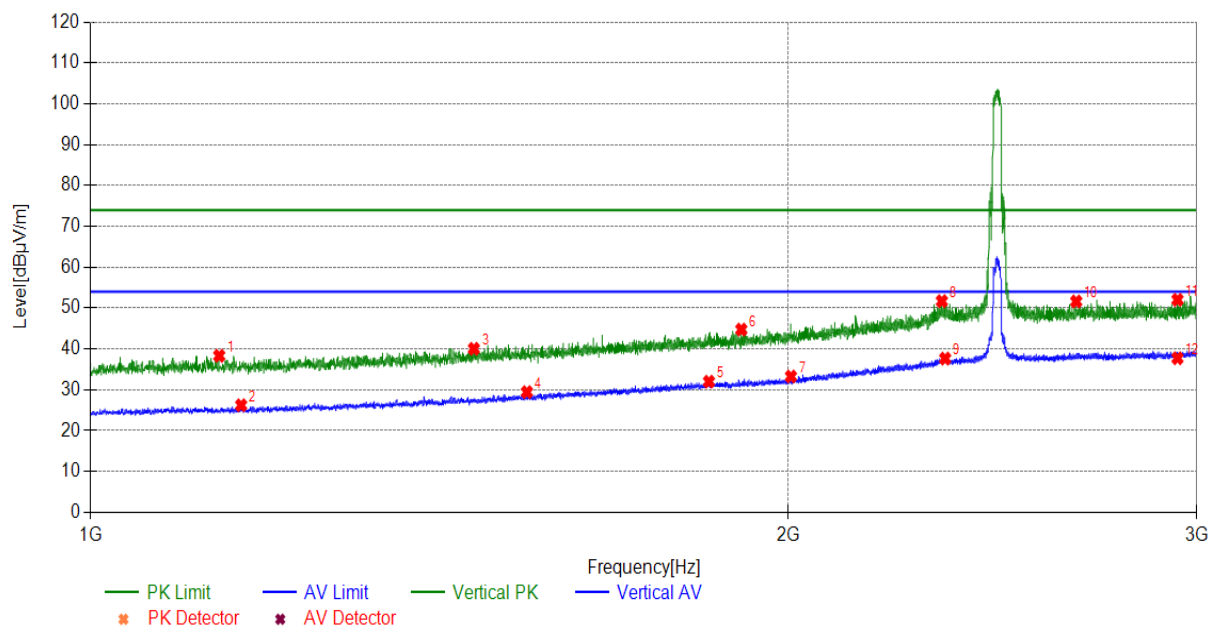


Radiates Emission			1G~3G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/ m]	Level [dBμV /m]	Limit [dBμV/ m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/ Fail
2820.5821	Horizontal	37.38	15.29	52.67	74.00	21.33	PK	150	150	PASS
1922.8923	Horizontal	31.56	16.23	47.79	74.00	26.21	PK	150	40	PASS
1140.6141	Horizontal	25.97	13.12	39.09	74.00	34.91	PK	150	190	PASS
2322.1322	Horizontal	35.25	16.67	51.92	74.00	22.08	PK	150	130	PASS
2499.1499	Horizontal	36.27	17.33	53.60	74.00	20.40	PK	150	180	PASS
1516.2516	Horizontal	28.33	13.93	42.26	74.00	31.74	PK	150	240	PASS
2659.1659	Horizontal	36.87	1.94	38.81	54.00	15.19	AV	150	10	PASS
1183.8184	Horizontal	26.15	0.36	26.51	54.00	27.49	AV	150	10	PASS
1497.4497	Horizontal	28.17	0.48	28.65	54.00	25.35	AV	150	10	PASS
2793.3793	Horizontal	37.30	2.09	39.39	54.00	14.61	AV	150	10	PASS
2342.1342	Horizontal	35.41	2.56	37.97	54.00	16.03	AV	150	10	PASS
1962.4963	Horizontal	31.77	1.05	32.82	54.00	21.18	AV	150	10	PASS



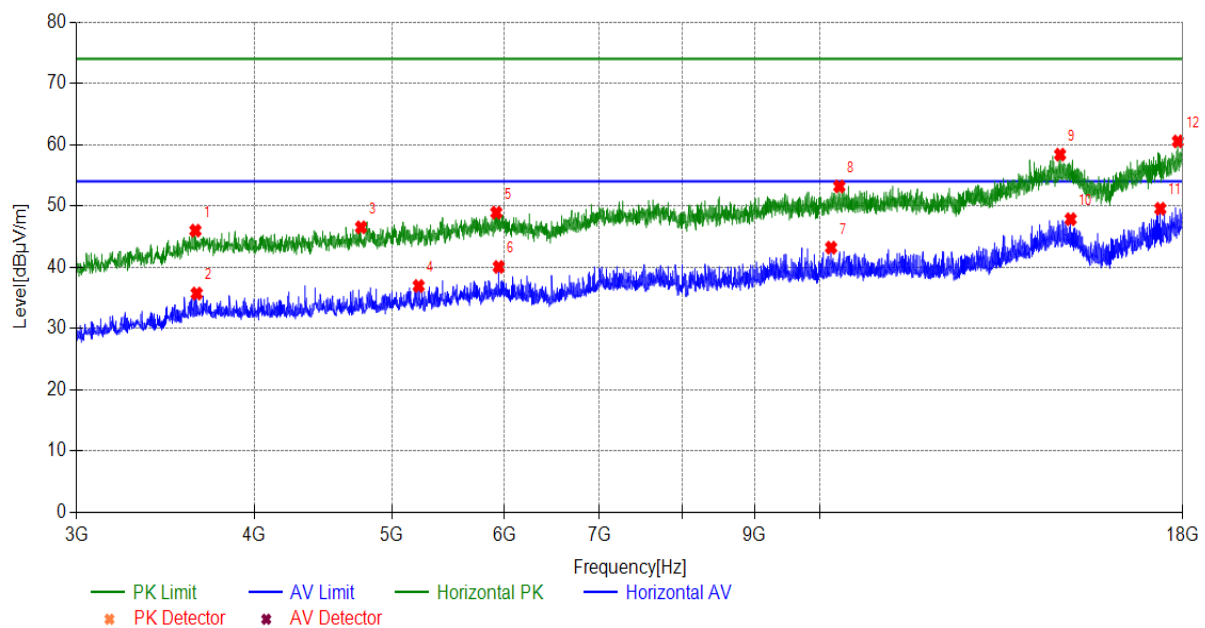
Note: The signal beyond the limit is carrier

Radiates Emission			1G~3G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
1136.4136	Vertical	25.96	12.36	38.32	74.00	35.68	PK	150	20	PASS
2661.9662	Vertical	36.88	14.74	51.62	74.00	22.38	PK	150	30	PASS
2943.5944	Vertical	37.77	14.25	52.02	74.00	21.98	PK	150	30	PASS
2329.3329	Vertical	35.30	16.39	51.69	74.00	22.31	PK	150	20	PASS
1908.6909	Vertical	31.49	13.25	44.74	74.00	29.26	PK	150	20	PASS
1463.4463	Vertical	27.91	12.13	40.04	74.00	33.96	PK	150	20	PASS
2336.9337	Vertical	35.37	2.28	37.65	54.00	16.35	AV	150	20	PASS
1161.4161	Vertical	26.06	0.17	26.23	54.00	27.77	AV	150	10	PASS
1542.6543	Vertical	28.56	0.88	29.44	54.00	24.56	AV	150	10	PASS
1848.2848	Vertical	31.17	0.83	32.00	54.00	22.00	AV	150	10	PASS
2005.1005	Vertical	32.03	1.23	33.26	54.00	20.74	AV	150	10	PASS
2943.5944	Vertical	37.77	-0.04	37.73	54.00	16.27	AV	150	30	PASS

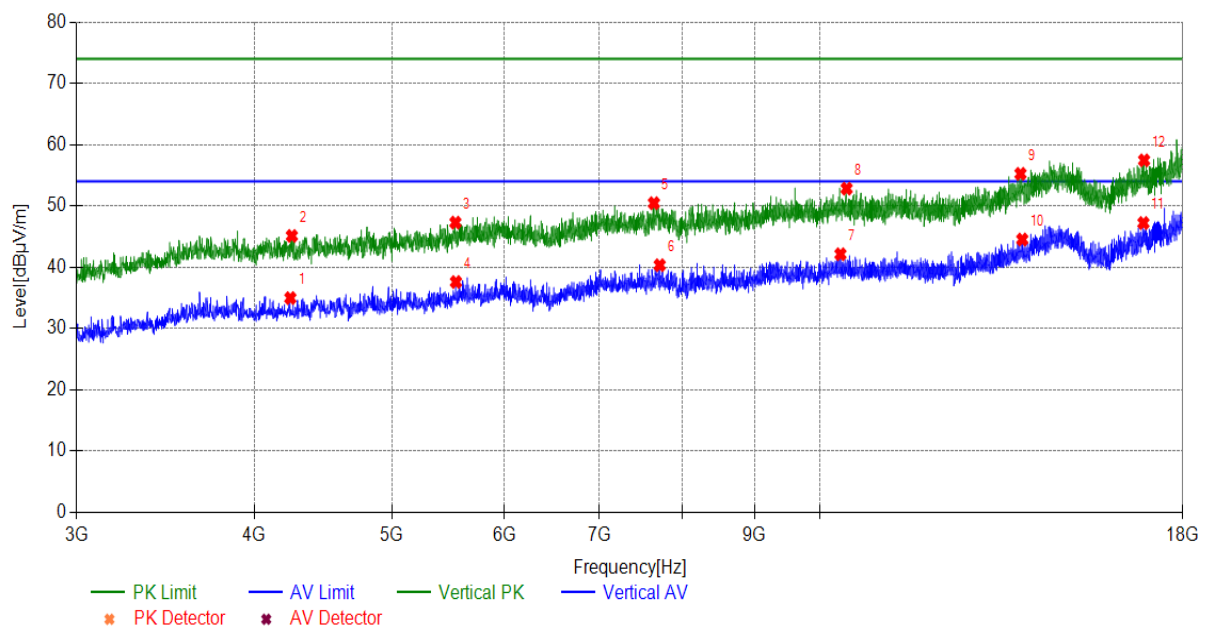


Note: The signal beyond the limit is carrier

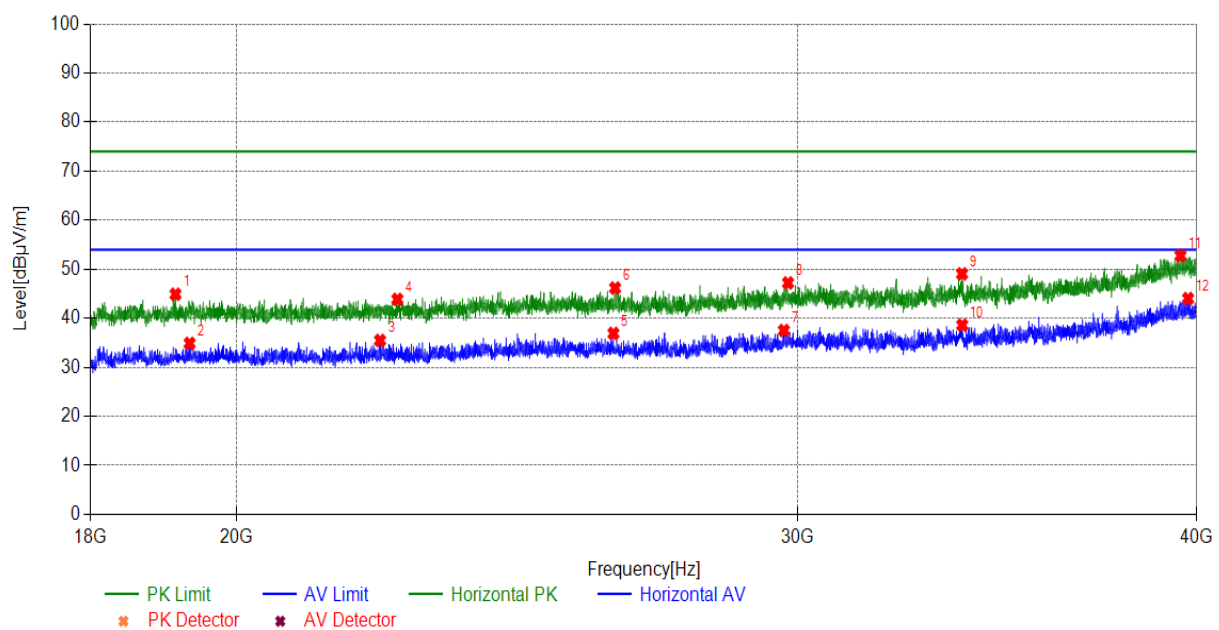
Radiates Emission			3G~18G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV /m]	Limit [dBμV /m]	Margin [dB]	Detec tor	Height [cm]	Angle deg	Pass/ Fail
17861.9862	Horizontal	14.73	45.80	60.53	74.00	13.47	PK	150	290	PASS
5922.2922	Horizontal	-4.27	53.17	48.90	74.00	25.10	PK	150	100	PASS
3637.5638	Horizontal	-7.20	53.17	45.97	74.00	28.03	PK	150	100	PASS
10322.2322	Horizontal	4.38	48.80	53.18	74.00	20.82	PK	150	190	PASS
14759.6760	Horizontal	8.63	49.74	58.37	74.00	15.63	PK	150	20	PASS
4756.6757	Horizontal	-5.87	52.38	46.51	74.00	27.49	PK	150	110	PASS
5221.7222	Horizontal	-5.61	42.55	36.94	54.00	17.06	AV	150	10	PASS
3645.0645	Horizontal	-7.19	42.90	35.71	54.00	18.29	AV	150	10	PASS
15014.7015	Horizontal	8.60	39.24	47.84	54.00	6.16	AV	150	10	PASS
10185.7186	Horizontal	4.04	39.15	43.19	54.00	10.81	AV	150	10	PASS
17360.9361	Horizontal	12.10	37.44	49.54	54.00	4.46	AV	150	10	PASS
5944.7945	Horizontal	-4.20	44.25	40.05	54.00	13.95	AV	150	10	PASS



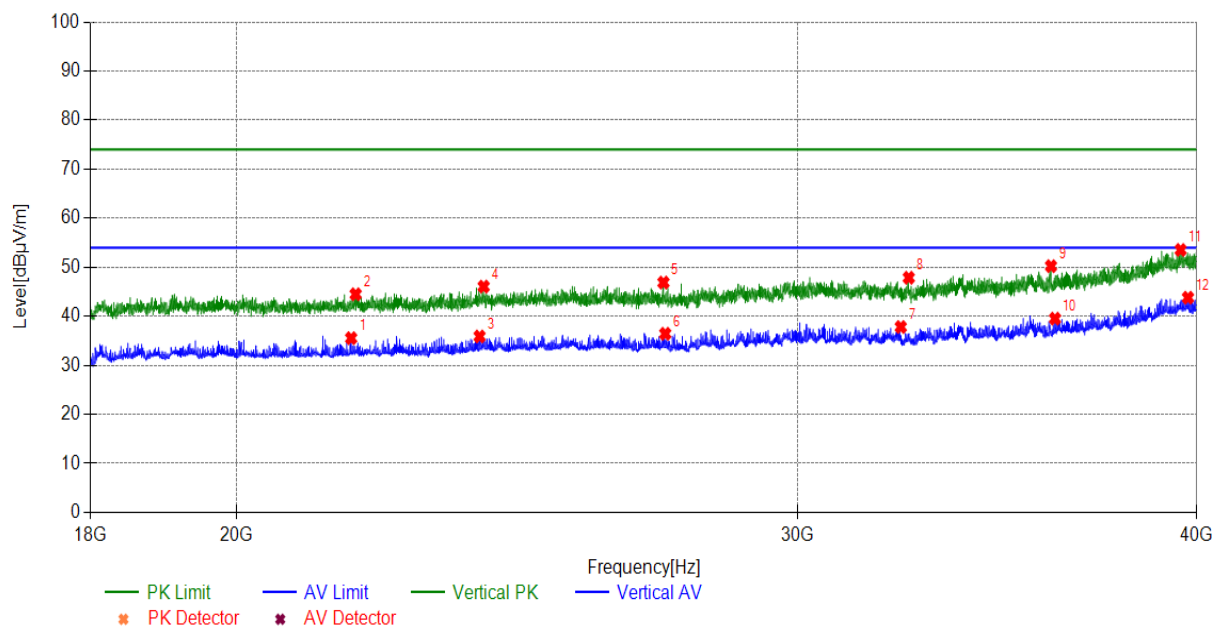
Radiates Emission			3G~18G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV /m]	Margin [dB]	Detec tor	Height [cm]	Angle deg	Pass/ Fail
16912.3912	Vertical	9.91	47.53	57.44	74.00	16.56	PK	150	60	PASS
4252.6253	Vertical	-6.36	51.47	45.11	74.00	28.89	PK	150	80	PASS
5542.7543	Vertical	-5.51	52.79	47.28	74.00	26.72	PK	150	30	PASS
10445.2445	Vertical	4.68	48.14	52.82	74.00	21.18	PK	150	50	PASS
13843.0843	Vertical	6.75	48.49	55.24	74.00	18.76	PK	150	70	PASS
7644.4644	Vertical	-0.28	50.73	50.45	74.00	23.55	PK	150	20	PASS
5547.2547	Vertical	-5.50	43.09	37.59	54.00	16.41	AV	150	20	PASS
7716.4716	Vertical	-0.26	40.59	40.33	54.00	13.67	AV	150	10	PASS
10341.7342	Vertical	4.43	37.69	42.12	54.00	11.88	AV	150	10	PASS
13882.0882	Vertical	6.84	37.68	44.52	54.00	9.48	AV	150	10	PASS
16892.8893	Vertical	9.87	37.34	47.21	54.00	6.79	AV	150	10	PASS
4242.1242	Vertical	-6.37	41.34	34.97	54.00	19.03	AV	150	10	PASS



Radiates Emission		18G~40G								
Test channel		Worst-Case								
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
19139.7140	Horizontal	1.34	43.55	44.89	74.00	29.11	PK	150	90	PASS
26288.2288	Horizontal	4.62	41.54	46.16	74.00	27.84	PK	150	50	PASS
39537.9538	Horizontal	10.78	41.97	52.75	74.00	21.25	PK	150	30	PASS
29782.1782	Horizontal	6.55	40.66	47.21	74.00	26.79	PK	150	20	PASS
33768.9769	Horizontal	6.53	42.52	49.05	74.00	24.95	PK	150	20	PASS
22464.2464	Horizontal	2.36	41.49	43.85	74.00	30.15	PK	150	90	PASS
26255.2255	Horizontal	4.60	32.30	36.90	54.00	17.10	AV	150	10	PASS
19335.5336	Horizontal	1.33	33.55	34.88	54.00	19.12	AV	150	10	PASS
22184.8185	Horizontal	2.08	33.39	35.47	54.00	18.53	AV	150	10	PASS
29694.1694	Horizontal	6.49	31.01	37.50	54.00	16.50	AV	150	10	PASS
33773.3773	Horizontal	6.53	32.07	38.60	54.00	15.40	AV	150	10	PASS
39753.5754	Horizontal	10.79	33.22	44.01	54.00	9.99	AV	150	10	PASS



Radiates Emission			18G~40G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV /m]	Limit [dBμV/ m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/ Fail
27221.1221	Vertical	5.01	41.86	46.87	74.00	27.13	PK	150	270	PASS
32495.0495	Vertical	6.10	41.75	47.85	74.00	26.15	PK	150	320	PASS
39540.1540	Vertical	10.78	42.75	53.53	74.00	20.47	PK	150	320	PASS
23907.5908	Vertical	3.63	42.42	46.05	74.00	27.95	PK	150	60	PASS
36008.8009	Vertical	7.16	43.06	50.22	74.00	23.78	PK	150	220	PASS
21797.5798	Vertical	1.85	42.63	44.48	74.00	29.52	PK	150	90	PASS
32308.0308	Vertical	6.02	31.79	37.81	54.00	16.19	AV	150	10	PASS
27256.3256	Vertical	5.03	31.40	36.43	54.00	17.57	AV	150	10	PASS
23837.1837	Vertical	3.57	32.31	35.88	54.00	18.12	AV	150	10	PASS
39751.3751	Vertical	10.79	33.00	43.79	54.00	10.21	AV	150	10	PASS
36112.2112	Vertical	7.23	32.28	39.51	54.00	14.49	AV	150	10	PASS
21727.1727	Vertical	1.83	33.70	35.53	54.00	18.47	AV	150	10	PASS

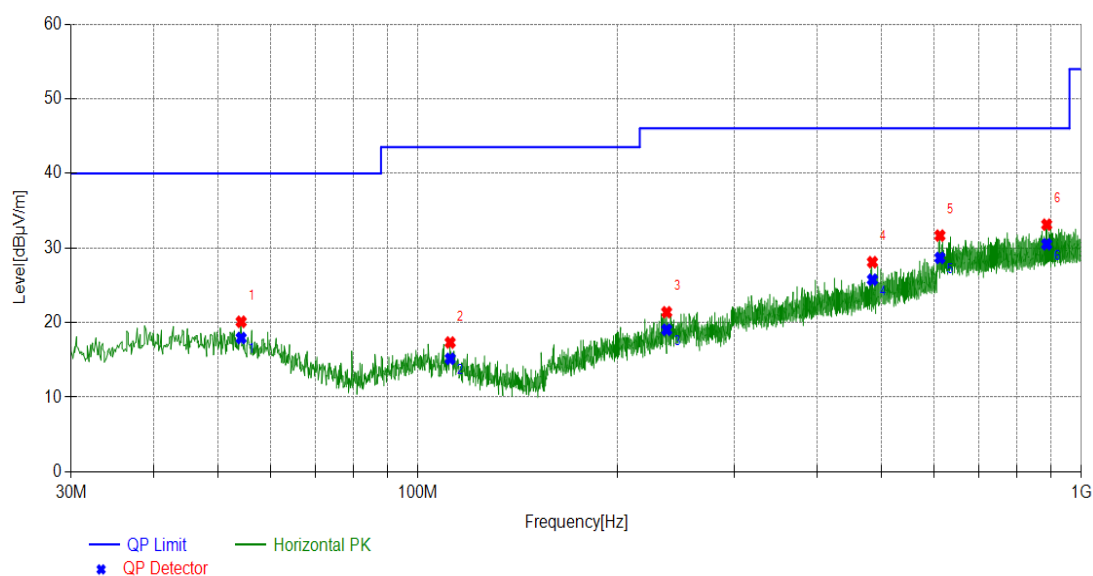


Bluetooth(Low Energy):

During the test, the Radiates Emission from 30MHz to 40GHz was performed in Bluetooth(Low Energy) all modes with all channels and all antenna. BLE(1Mbps), Channel 39, antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

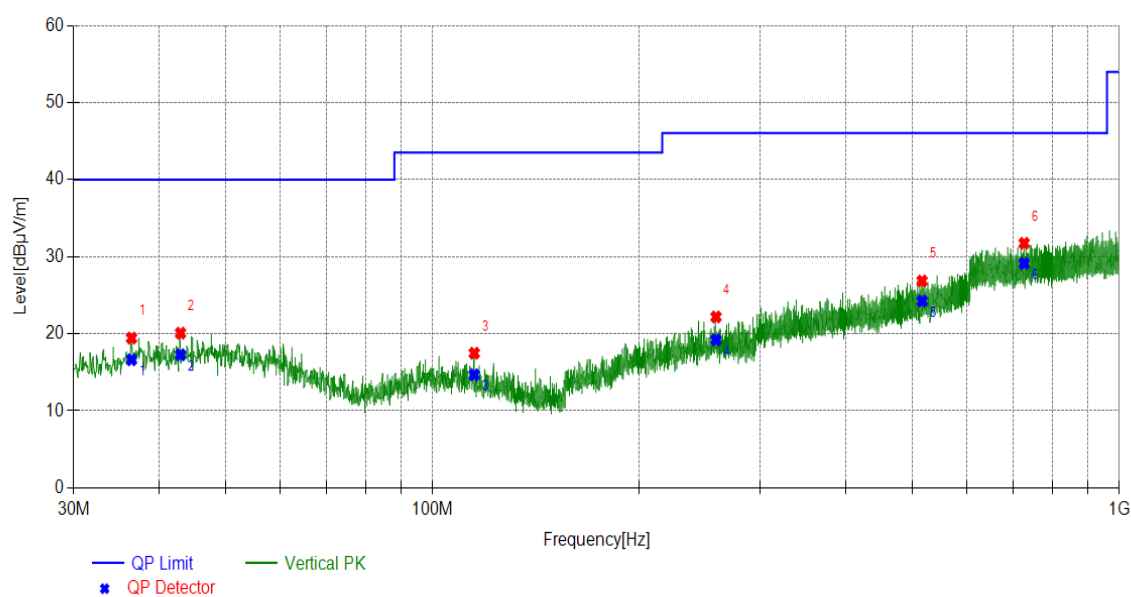
Radiates Emission			30M~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
54.1554	Horizontal	14.03	6.08	20.11	40.00	19.89	PK	100	60	PASS
111.8762	Horizontal	12.25	5.08	17.33	43.52	26.19	PK	100	30	PASS
237.2127	Horizontal	14.32	7.07	21.39	46.02	24.63	PK	100	30	PASS
484.4904	Horizontal	18.90	9.20	28.10	46.02	17.92	PK	100	70	PASS
612.3492	Horizontal	21.21	10.45	31.66	46.02	14.36	PK	100	20	PASS
887.1777	Horizontal	24.39	8.74	33.13	46.02	12.89	PK	100	40	PASS

Final Data List									
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail	
54.1554	Horizontal	14.03	17.93	40.00	22.07	102	60	PASS	
111.8762	Horizontal	12.25	15.15	43.52	28.37	130	30	PASS	
237.2127	Horizontal	14.32	19.04	46.02	26.98	160	30	PASS	
484.4904	Horizontal	18.90	25.75	46.02	20.27	230	70	PASS	
612.3492	Horizontal	21.21	28.67	46.02	17.35	140	20	PASS	
887.1777	Horizontal	24.39	30.50	46.02	15.52	302	40	PASS	

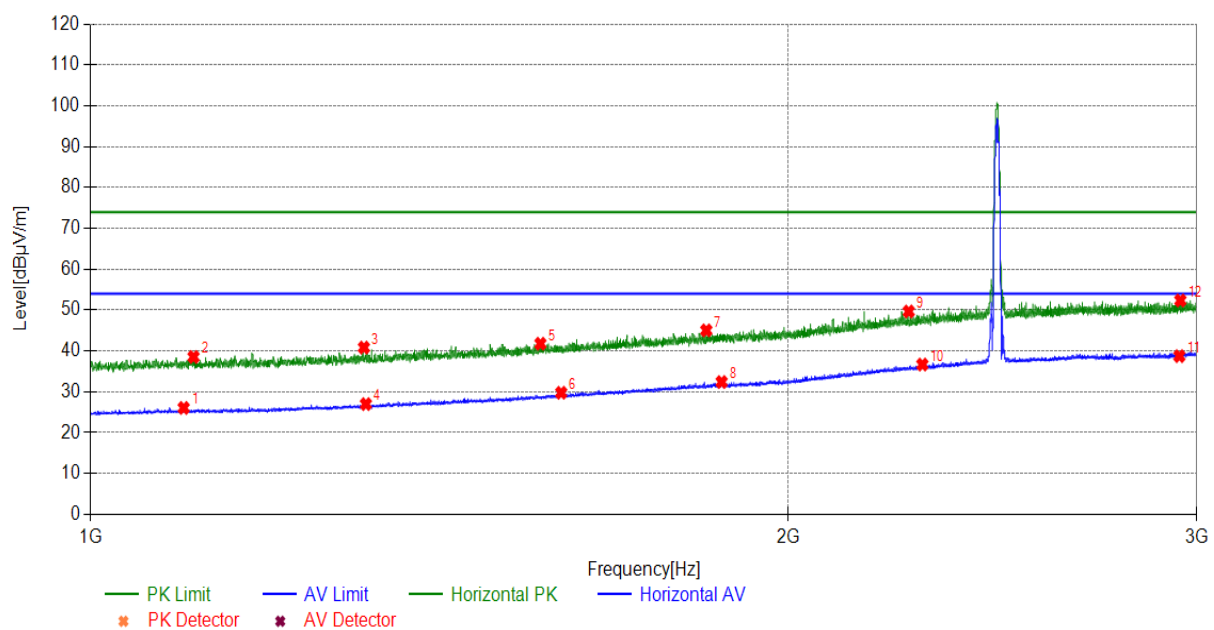


Radiates Emission			30M~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
36.4480	Vertical	13.18	6.26	19.44	40.00	20.56	PK	100	30	PASS
42.9531	Vertical	14.13	5.95	20.08	40.00	19.92	PK	100	30	PASS
115.0226	Vertical	11.94	5.54	17.48	43.52	26.04	PK	100	40	PASS
258.7623	Vertical	15.00	7.18	22.18	46.02	23.84	PK	100	30	PASS
516.3980	Vertical	19.48	7.37	26.85	46.02	19.17	PK	100	40	PASS
727.1857	Vertical	22.56	9.18	31.74	46.02	14.28	PK	100	30	PASS

Final Data List									
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail	
36.4480	Vertical	13.18	16.63	40.00	23.37	110	30	PASS	
42.9531	Vertical	14.13	17.27	40.00	22.73	146	30	PASS	
115.0226	Vertical	11.94	14.67	43.52	28.85	182	40	PASS	
258.7623	Vertical	15.00	19.21	46.02	26.81	204	30	PASS	
516.3980	Vertical	19.48	24.24	46.02	21.78	256	40	PASS	
727.1857	Vertical	22.56	29.13	46.02	16.89	310	30	PASS	

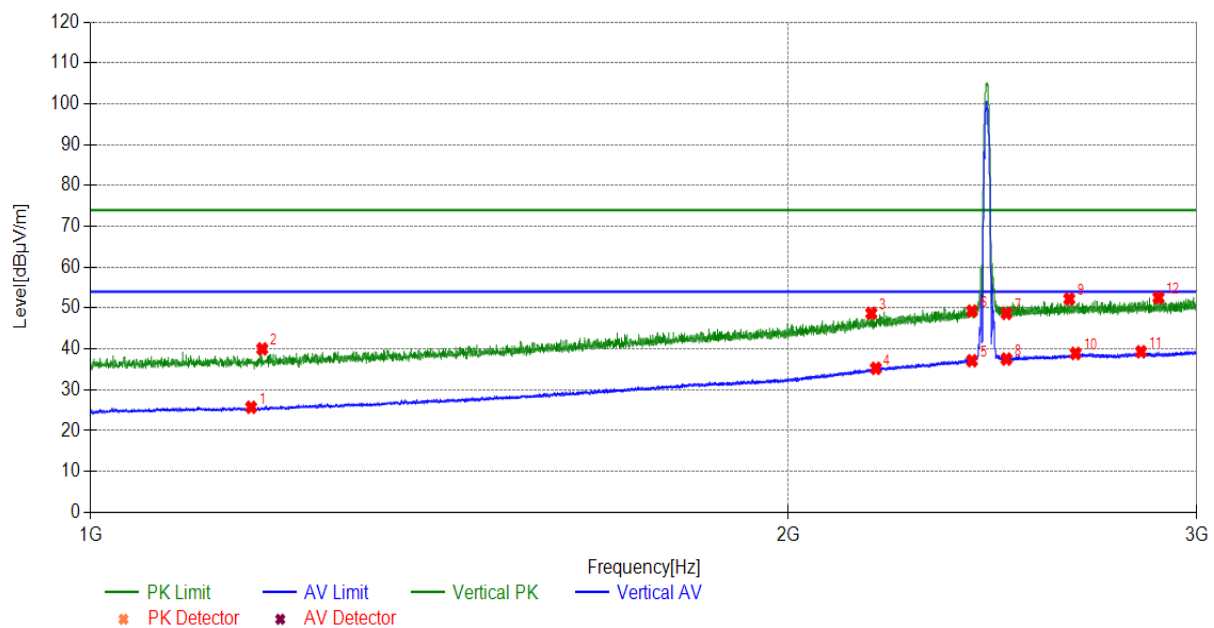


Radiates Emission			1G~3G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV /m]	Limit [dBμV/ m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/ Fail
2976.5977	Horizontal	37.88	14.81	52.69	74.00	21.31	PK	150	297	PASS
2720.9721	Horizontal	37.07	16.05	53.12	74.00	20.88	PK	150	360	PASS
1914.0914	Horizontal	31.52	15.28	46.80	74.00	27.20	PK	150	120	PASS
2154.7155	Horizontal	33.75	15.17	48.92	74.00	25.08	PK	150	164	PASS
1045.0045	Horizontal	25.58	12.55	38.13	74.00	35.87	PK	150	275	PASS
1478.4478	Horizontal	28.03	13.14	41.17	74.00	32.83	PK	150	360	PASS
2964.7965	Horizontal	37.84	1.66	39.50	54.00	14.50	AV	150	186	PASS
1912.4912	Horizontal	31.51	0.62	32.13	54.00	21.87	AV	150	31	PASS
1476.8477	Horizontal	28.01	0.04	28.05	54.00	25.95	AV	150	186	PASS
2152.1152	Horizontal	33.72	1.11	34.83	54.00	19.17	AV	150	275	PASS
2702.7703	Horizontal	37.01	1.90	38.91	54.00	15.09	AV	150	120	PASS
1035.6036	Horizontal	25.55	-0.17	25.38	54.00	28.62	AV	150	75	PASS



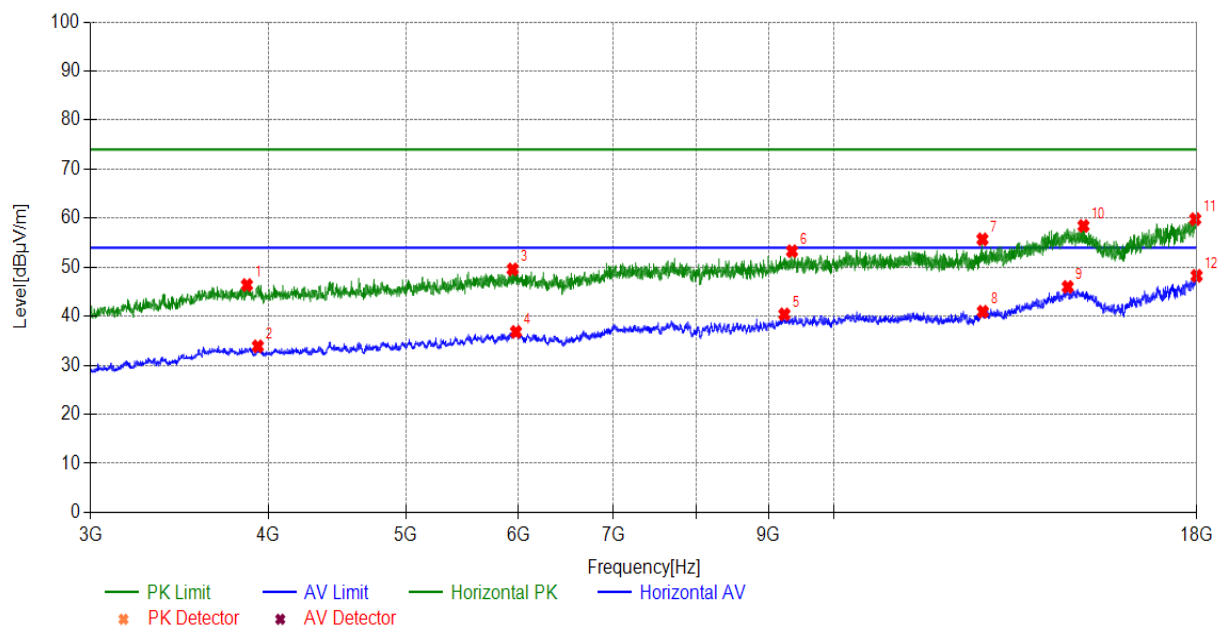
Note: The signal beyond the limit is carrier

Radiates Emission			1G~3G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV /m]	Limit [dBμV/ m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/ Fail
2888.5889	Vertical	37.60	14.94	52.54	74.00	21.46	PK	150	326	PASS
2171.7172	Vertical	33.94	14.78	48.72	74.00	25.28	PK	150	145	PASS
2400.1400	Vertical	35.87	13.38	49.25	74.00	24.75	PK	150	190	PASS
1186.0186	Vertical	26.16	13.85	40.01	74.00	33.99	PK	150	98	PASS
2643.5644	Vertical	36.82	15.39	52.21	74.00	21.79	PK	150	349	PASS
2483.5484	Vertical	36.20	12.51	48.71	74.00	25.29	PK	150	235	PASS
2181.5182	Vertical	34.06	1.19	35.25	54.00	18.75	AV	150	53	PASS
2400.1400	Vertical	35.87	1.25	37.12	54.00	16.88	AV	150	8	PASS
2838.9839	Vertical	37.44	1.87	39.31	54.00	14.69	AV	150	75	PASS
2660.1660	Vertical	36.88	2.02	38.90	54.00	15.10	AV	150	280	PASS
2483.5484	Vertical	36.20	1.33	37.53	54.00	16.47	AV	150	190	PASS
1173.0173	Vertical	26.11	-0.38	25.73	54.00	28.27	AV	150	303	PASS

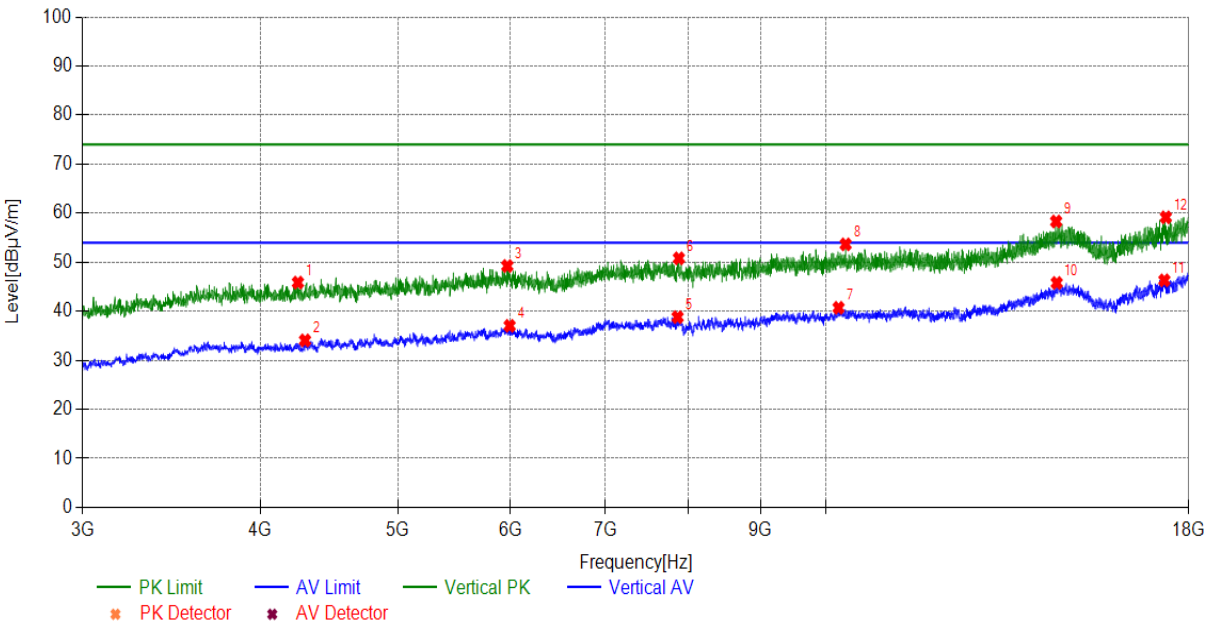


Note: The signal beyond the limit is carrier

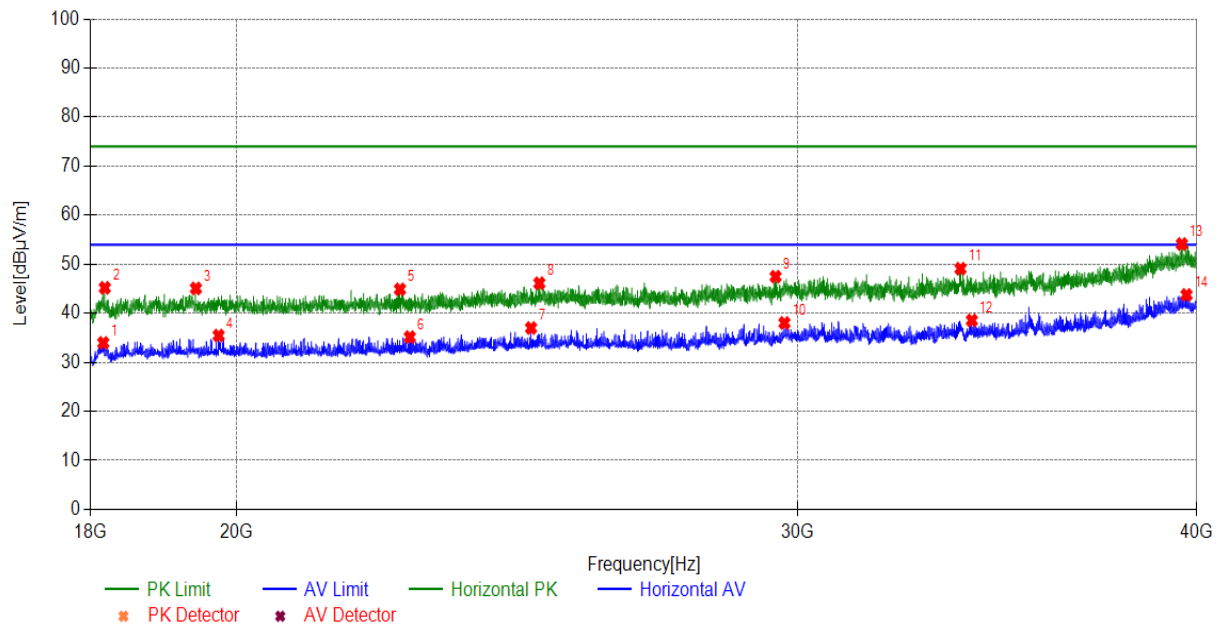
Radiates Emission			3G~18G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
3865.5866	Horizontal	-6.79	53.16	46.37	74.00	27.63	PK	150	194	PASS
14986.1986	Horizontal	8.64	49.78	58.42	74.00	15.58	PK	150	298	PASS
17959.4960	Horizontal	15.23	44.57	59.80	74.00	14.20	PK	150	55	PASS
5944.7945	Horizontal	-4.20	53.77	49.57	74.00	24.43	PK	150	31	PASS
9347.1347	Horizontal	2.32	50.95	53.27	74.00	20.73	PK	150	352	PASS
12723.9724	Horizontal	4.85	50.84	55.69	74.00	18.31	PK	150	220	PASS
14608.1608	Horizontal	8.62	37.37	45.99	54.00	8.01	AV	150	352	PASS
3934.5935	Horizontal	-6.67	40.54	33.87	54.00	20.13	AV	150	352	PASS
5976.2976	Horizontal	-4.10	40.91	36.81	54.00	17.19	AV	150	352	PASS
9231.6232	Horizontal	2.06	38.33	40.39	54.00	13.61	AV	150	352	PASS
12731.4731	Horizontal	4.86	36.06	40.92	54.00	13.08	AV	150	352	PASS
18000.0000	Horizontal	15.44	32.80	48.24	54.00	5.76	AV	150	352	PASS



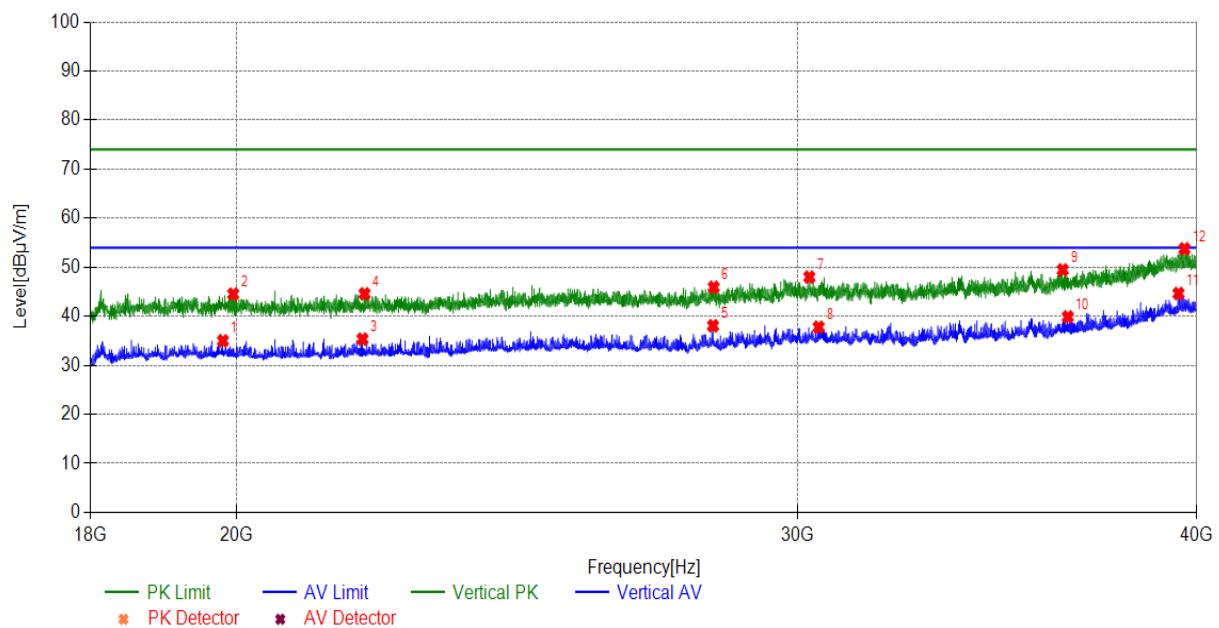
Radiates Emission			3G~18G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/ Fail
17347.4347	Vertical	12.02	47.14	59.16	74.00	14.84	PK	150	27	PASS
4252.6253	Vertical	-6.36	52.21	45.85	74.00	28.15	PK	150	37	PASS
7882.9883	Vertical	-0.21	51.01	50.80	74.00	23.20	PK	150	22	PASS
10328.2328	Vertical	4.39	49.25	53.64	74.00	20.36	PK	150	12	PASS
14524.1524	Vertical	8.61	49.69	58.30	74.00	15.70	PK	150	17	PASS
5970.2970	Vertical	-4.12	53.35	49.23	74.00	24.77	PK	150	17	PASS
5992.7993	Vertical	-4.04	41.06	37.02	54.00	16.98	AV	150	12	PASS
4302.1302	Vertical	-6.33	40.38	34.05	54.00	19.95	AV	150	12	PASS
14537.6538	Vertical	8.61	37.16	45.77	54.00	8.23	AV	150	12	PASS
10209.7210	Vertical	4.10	36.60	40.70	54.00	13.30	AV	150	12	PASS
17305.4305	Vertical	11.79	34.52	46.31	54.00	7.69	AV	150	12	PASS
7866.4866	Vertical	-0.21	39.00	38.79	54.00	15.21	AV	150	12	PASS



Radiates Emission		18G~40G								
Test channel		Worst-Case								
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19423.5424	Horizontal	1.33	43.74	45.07	74.00	28.93	PK	150	100	PASS
24888.8889	Horizontal	4.06	42.06	46.12	74.00	27.88	PK	150	60	PASS
39575.3575	Horizontal	10.78	43.33	54.11	74.00	19.89	PK	150	150	PASS
18187.0187	Horizontal	1.15	44.03	45.18	74.00	28.82	PK	150	60	PASS
33731.5732	Horizontal	6.52	42.56	49.08	74.00	24.92	PK	150	180	PASS
22506.0506	Horizontal	2.41	42.47	44.88	74.00	29.12	PK	150	90	PASS
29515.9516	Horizontal	6.36	41.10	47.46	74.00	26.54	PK	150	170	PASS
19744.7745	Horizontal	1.31	34.14	35.45	54.00	18.55	AV	150	10	PASS
22666.6667	Horizontal	2.57	32.56	35.13	54.00	18.87	AV	150	10	PASS
24739.2739	Horizontal	4.00	32.99	36.99	54.00	17.01	AV	150	10	PASS
39709.5710	Horizontal	10.79	32.95	43.74	54.00	10.26	AV	150	10	PASS
29705.1705	Horizontal	6.49	31.53	38.02	54.00	15.98	AV	150	10	PASS
34008.8009	Horizontal	6.60	31.94	38.54	54.00	15.46	AV	150	10	PASS
18167.2167	Horizontal	1.14	32.82	33.96	54.00	20.04	AV	150	10	PASS



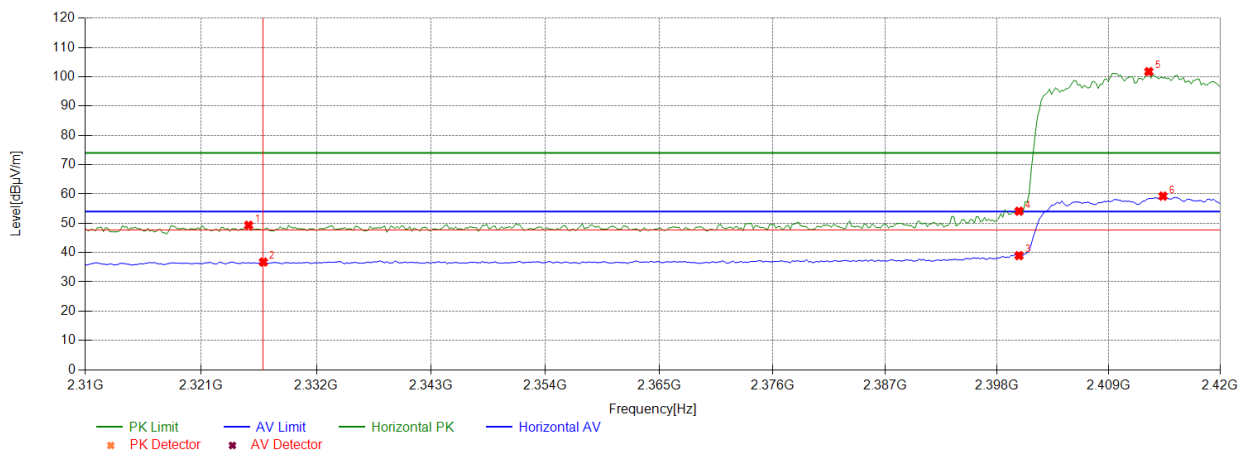
Radiates Emission			18G~40G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/F ail
39650.1650	Vertical	10.78	42.97	53.75	74.00	20.25	PK	150	230	PASS
19953.7954	Vertical	1.30	43.22	44.52	74.00	29.48	PK	150	150	PASS
28226.6227	Vertical	5.54	40.37	45.91	74.00	28.09	PK	150	190	PASS
30244.2244	Vertical	6.59	41.39	47.98	74.00	26.02	PK	150	200	PASS
36314.6315	Vertical	7.38	42.06	49.44	74.00	24.56	PK	150	30	PASS
21938.3938	Vertical	1.88	42.69	44.57	74.00	29.43	PK	150	270	PASS
39480.7481	Vertical	10.77	33.87	44.64	54.00	9.36	AV	150	10	PASS
28213.4213	Vertical	5.53	32.52	38.05	54.00	15.95	AV	150	10	PASS
21905.3905	Vertical	1.88	33.45	35.33	54.00	18.67	AV	150	10	PASS
36448.8449	Vertical	7.48	32.39	39.87	54.00	14.13	AV	150	10	PASS
30448.8449	Vertical	6.50	31.27	37.77	54.00	16.23	AV	150	10	PASS
19806.3806	Vertical	1.31	33.68	34.99	54.00	19.01	AV	150	10	PASS



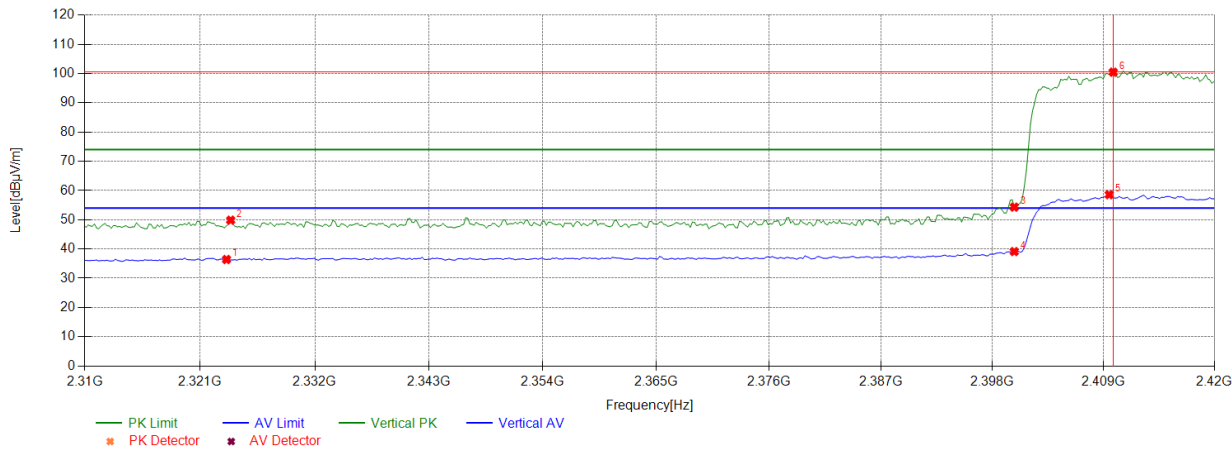
Band Edge:

During the test, the Band Edge was performed in WIFI all modes with all channels and all antenna. 802.11ax20, MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

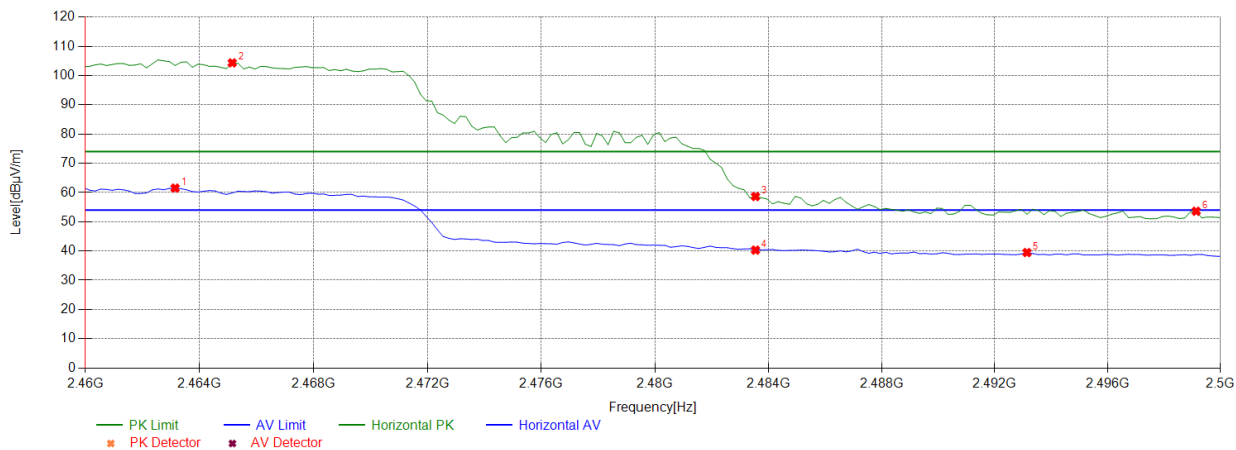
Test mode			802.11AX(HE20)							
Test channel			LOW channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV /m]	Level [dBμV/ m]	Limit [dBμV /m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/ Fail
2325.5326	Horizontal	35.27	14.05	49.32	74.00	24.68	PK	150	98	PASS
2390.1400	Horizontal	35.87	18.26	54.13	74.00	19.87	PK	150	340	PASS
2412.9413	Horizontal	35.92	65.86	101.78	74.00	-27.78	PK	150	340	-
2326.9327	Horizontal	35.29	1.45	36.74	54.00	17.26	AV	150	297	PASS
2414.3414	Horizontal	35.93	23.34	59.27	54.00	-5.27	AV	150	319	-
2390.1400	Horizontal	35.87	3.09	38.96	54.00	15.04	AV	150	319	PASS



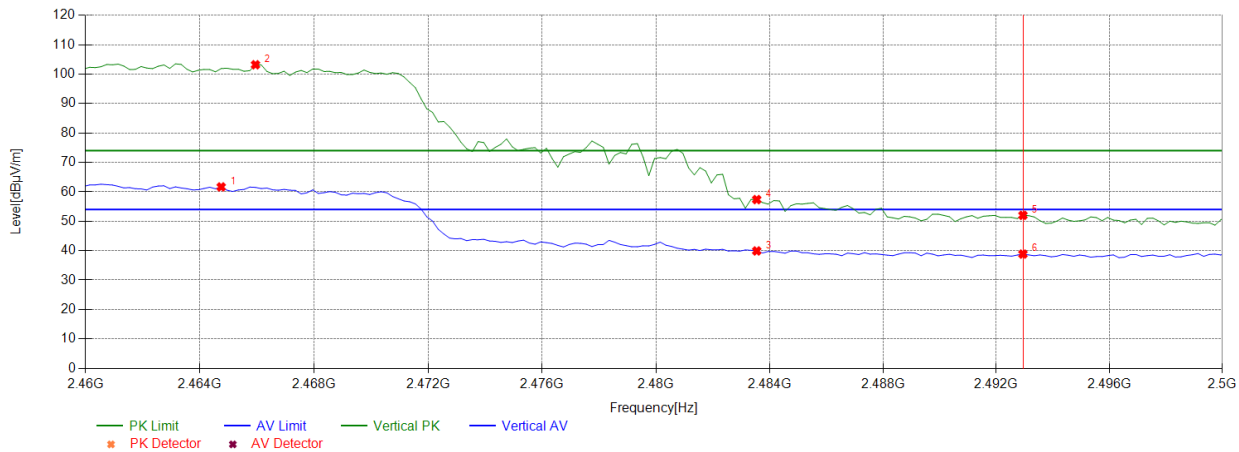
Test mode			802.11AX(HE20)							
Test channel			LOW channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/F ail
2409.9410	Vertical	35.91	64.59	100.50	74.00	-26.50	PK	150	345	-
2323.9324	Vertical	35.26	14.61	49.87	74.00	24.13	PK	150	33	PASS
2390.1400	Vertical	35.87	18.45	54.32	74.00	19.68	PK	150	345	PASS
2390.1400	Vertical	35.87	3.25	39.12	54.00	14.88	AV	150	301	PASS
2409.5410	Vertical	35.91	22.68	58.59	54.00	-4.59	AV	150	301	-
2323.5324	Vertical	35.26	1.15	36.41	54.00	17.59	AV	150	190	PASS



Test mode			802.11AX(HE20)							
Test channel			HIGH channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/ Fail
2499.1499	Horizontal	36.27	17.33	53.60	74.00	20.40	PK	150	180	PASS
2465.1465	Horizontal	36.13	68.24	104.37	74.00	-30.37	PK	150	210	-
2483.5484	Horizontal	36.20	22.44	58.64	74.00	15.36	PK	150	160	PASS
2483.5484	Horizontal	36.20	4.11	40.31	54.00	13.69	AV	150	70	PASS
2493.1493	Horizontal	36.24	3.23	39.47	54.00	14.53	AV	150	160	PASS
2463.1463	Horizontal	36.12	25.41	61.53	54.00	-7.53	AV	150	240	-

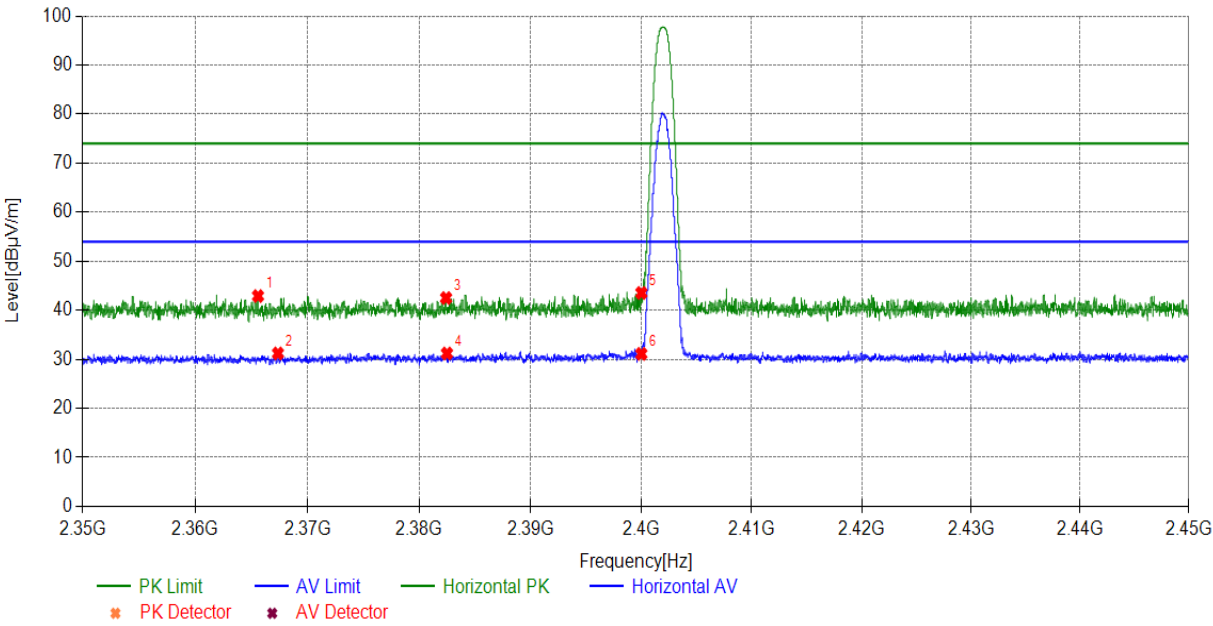


Test mode			802.11AX(HE20)							
Test channel			HIGH channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2465.9466	Vertical	36.13	67.08	103.21	74.00	-29.21	PK	150	30	-
2483.5484	Vertical	36.20	21.17	57.37	74.00	16.63	PK	150	30	PASS
2492.9493	Vertical	36.24	15.78	52.02	74.00	21.98	PK	150	30	PASS
2483.5484	Vertical	36.20	3.71	39.91	54.00	14.09	AV	150	30	PASS
2492.9493	Vertical	36.24	2.60	38.84	54.00	15.16	AV	150	10	PASS
2464.7465	Vertical	36.13	25.55	61.68	54.00	-7.68	AV	150	10	-

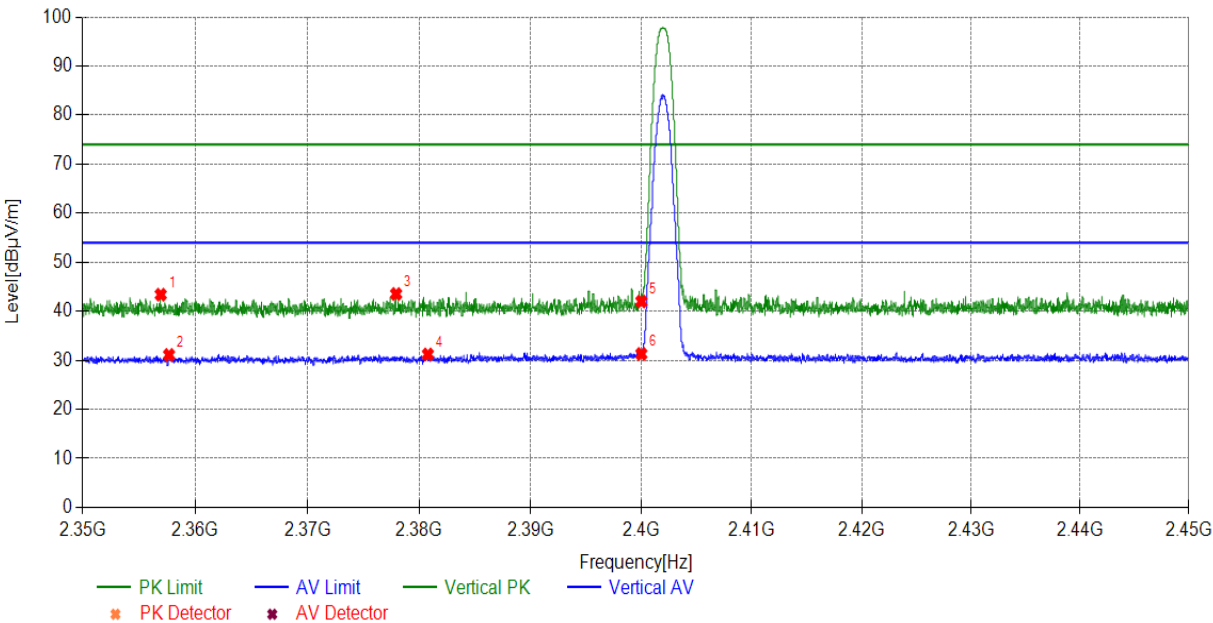


During the test, the Band Edge was performed in BLE all modes with all channels and all antenna. BLE(1Mbps), Channel 0, Antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

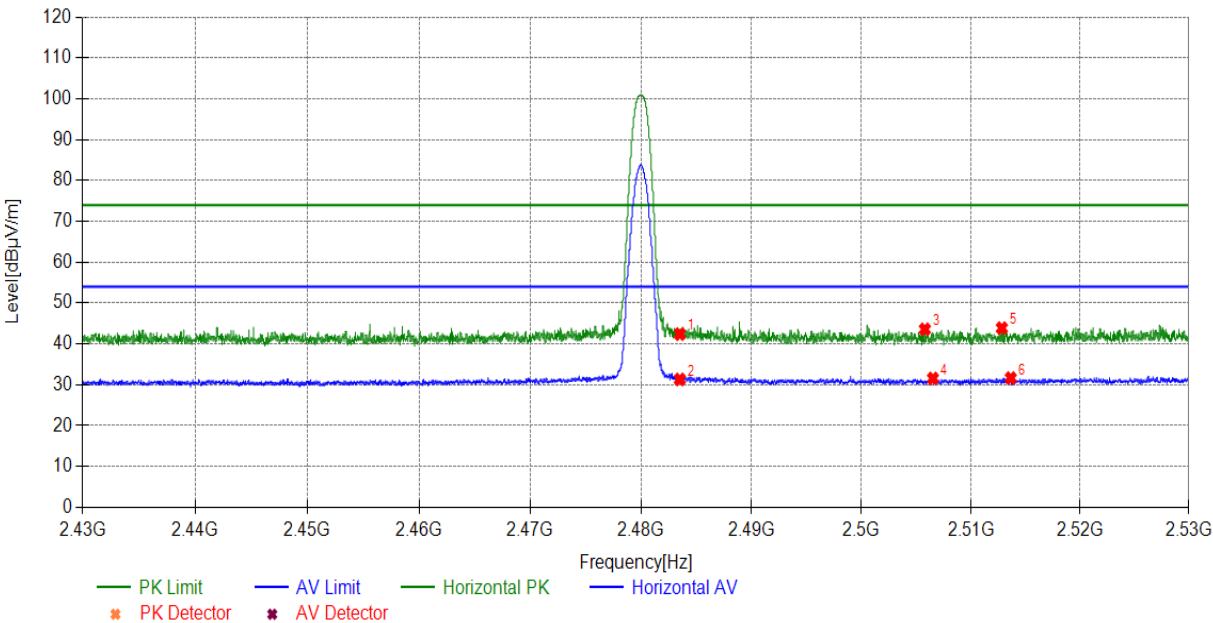
Test mode			BLE(1Mbps)							
Test channel			Channel 0							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Dete ctor	Height [cm]	Angle deg	Pass/F ail
2365.5916	Horizontal	29.58	13.32	42.90	74.00	31.10	PK	150	10	PASS
2382.4132	Horizontal	29.62	12.88	42.50	74.00	31.50	PK	150	20	PASS
2400.0050	Horizontal	29.67	13.86	43.53	74.00	30.47	PK	150	20	PASS
2367.3717	Horizontal	29.58	1.62	31.20	54.00	22.80	AV	150	10	PASS
2382.4932	Horizontal	29.62	1.57	31.19	54.00	22.81	AV	150	10	PASS
2400.0050	Horizontal	29.67	1.43	31.10	54.00	22.90	AV	150	20	PASS



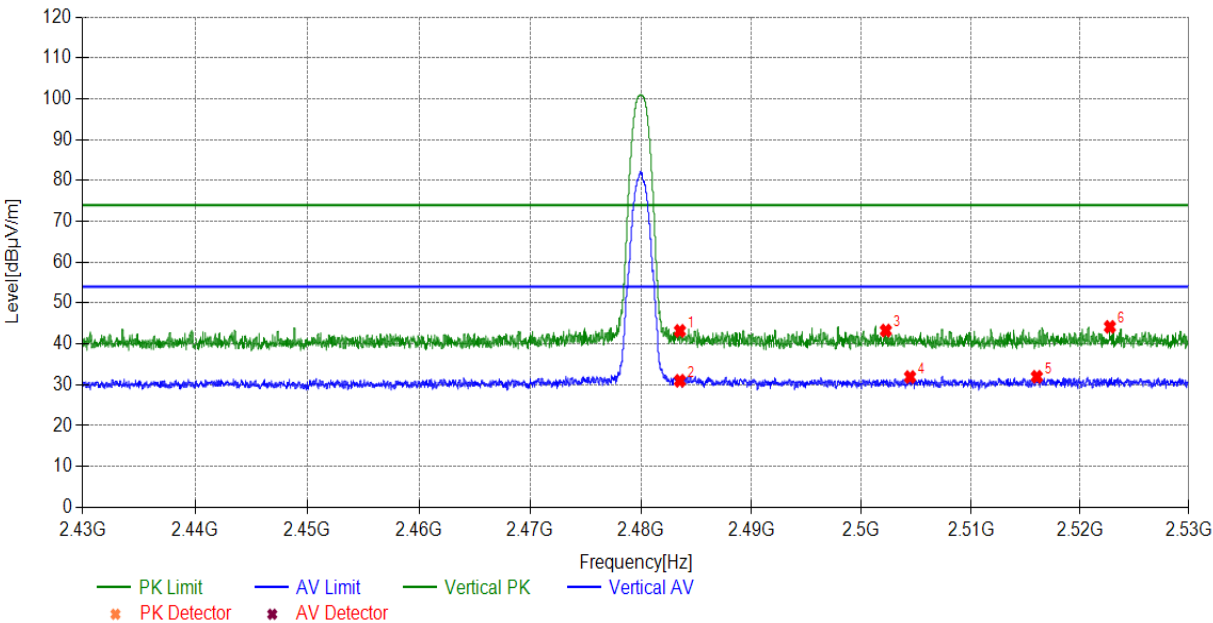
Test mode			BLE(1Mbps)							
Test channel			LOW channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
2356.9407	Vertical	29.55	13.83	43.38	74.00	30.62	PK	150	30	PASS
2377.9328	Vertical	29.61	13.91	43.52	74.00	30.48	PK	150	20	PASS
2400.0050	Vertical	29.67	12.32	41.99	74.00	32.01	PK	150	20	PASS
2357.6808	Vertical	29.55	1.54	31.09	54.00	22.91	AV	150	20	PASS
2380.7831	Vertical	29.62	1.58	31.20	54.00	22.80	AV	150	20	PASS
2400.0050	Vertical	29.67	1.62	31.29	54.00	22.71	AV	150	20	PASS



Test mode		BLE(1Mbps)								
Test channel		HIGH channel								
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2483.5054	Horizontal	29.91	12.50	42.41	74.00	31.59	PK	150	30	PASS
2505.7876	Horizontal	29.98	13.60	43.58	74.00	30.42	PK	150	50	PASS
2512.8283	Horizontal	30.01	13.86	43.87	74.00	30.13	PK	150	20	PASS
2483.5054	Horizontal	29.91	1.41	31.32	54.00	22.68	AV	150	40	PASS
2506.5277	Horizontal	29.99	1.57	31.56	54.00	22.44	AV	150	30	PASS
2513.6484	Horizontal	30.02	1.63	31.65	54.00	22.35	AV	150	20	PASS



Test mode			BLE(1Mbps)							
Test channel			HIGH channel							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2522.7493	Vertical	30.05	14.14	44.19	74.00	29.81	PK	150	20	PASS
2483.5054	Vertical	29.91	13.28	43.19	74.00	30.81	PK	150	20	PASS
2502.2272	Vertical	29.97	13.30	43.27	74.00	30.73	PK	150	20	PASS
2504.4374	Vertical	29.98	1.93	31.91	54.00	22.09	AV	150	10	PASS
2516.0386	Vertical	30.03	1.93	31.96	54.00	22.04	AV	150	10	PASS
2483.5054	Vertical	29.91	1.08	30.99	54.00	23.01	AV	150	10	PASS



5.2 Maximum conducted output power

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement:

The EUT was tested according to DTS test procedure of ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements. The maximum conducted output power using ANSI C63.10 section 11.9.2.3 AVGPM Average power meter method.

1. Power meter and sensor's minimum video bandwidth is 50MHz, larger than 802.11n(40MHz) bandwidth;
2. Fast responding diode sensors respond immediately to changes in power level to reduce total test time.
3. Use average detector to test.

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Maximum Average Conducted Output Power Level Method AVGSA-2 in KDB 558074 D01 /KDB662911 D01 for this test.

The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

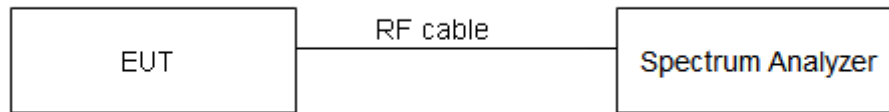
Limits:

Average Output Power	$\leq 1W$ (30dBm)
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Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated Levels above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

Test Results:

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	13.79	≤ 30	PASS
	Ant2	2412	13.91	≤ 30	PASS
	Ant1	2437	17.00	≤ 30	PASS
	Ant2	2437	10.81	≤ 30	PASS
	Ant1	2462	11.07	≤ 30	PASS
	Ant2	2462	14.00	≤ 30	PASS
11G	Ant1	2412	11.21	≤ 30	PASS
	Ant2	2412	11.32	≤ 30	PASS
	Ant1	2437	14.30	≤ 30	PASS
	Ant2	2437	12.50	≤ 30	PASS
	Ant1	2462	12.56	≤ 30	PASS
	Ant2	2462	15.50	≤ 30	PASS
11N20SISO	Ant1	2412	12.32	≤ 30	PASS
	Ant2	2412	12.48	≤ 30	PASS
	Ant1	2437	15.40	≤ 30	PASS
	Ant2	2437	14.07	≤ 30	PASS
	Ant1	2462	13.84	≤ 30	PASS
	Ant2	2462	13.61	≤ 30	PASS
11N40SISO	Ant1	2422	13.92	≤ 30	PASS
	Ant2	2422	14.75	≤ 30	PASS
	Ant1	2437	13.90	≤ 30	PASS
	Ant2	2437	13.93	≤ 30	PASS
	Ant1	2452	12.81	≤ 30	PASS
	Ant2	2452	13.63	≤ 30	PASS
11AX20SISO	Ant1	2412	12.70	≤ 30	PASS
	Ant2	2412	14.60	≤ 30	PASS
	Ant1	2437	12.47	≤ 30	PASS
	Ant2	2437	13.84	≤ 30	PASS
	Ant1	2462	13.20	≤ 30	PASS
	Ant2	2462	13.93	≤ 30	PASS
11AX40SISO	Ant1	2422	12.94	≤ 30	PASS
	Ant2	2422	14.90	≤ 30	PASS
	Ant1	2437	12.96	≤ 30	PASS
	Ant2	2437	12.89	≤ 30	PASS
	Ant1	2452	12.79	≤ 30	PASS
	Ant2	2452	12.40	≤ 30	PASS

11N20MIMO	Ant1	2412	13.79	<=30	PASS
	Ant2	2412	13.91	<=30	PASS
	total	2412	17.00	<=30	PASS
	Ant1	2437	10.81	<=30	PASS
	Ant2	2437	11.07	<=30	PASS
	total	2437	14.00	<=30	PASS
	Ant1	2462	11.21	<=30	PASS
	Ant2	2462	11.32	<=30	PASS
11N40MIMO	total	2462	14.30	<=30	PASS
	Ant1	2422	12.50	<=30	PASS
	Ant2	2422	12.56	<=30	PASS
	total	2422	15.50	<=30	PASS
	Ant1	2437	12.32	<=30	PASS
	Ant2	2437	12.48	<=30	PASS
	total	2437	15.40	<=30	PASS
	Ant1	2452	12.62	<=30	PASS
11AX20MIMO	Ant2	2452	12.49	<=30	PASS
	total	2452	16.60	<=30	PASS
	Ant1	2412	13.96	<=30	PASS
	Ant2	2412	14.10	<=30	PASS
	total	2412	17.00	<=30	PASS
	Ant1	2437	14.10	<=30	PASS
	Ant2	2437	14.03	<=30	PASS
	total	2437	17.10	<=30	PASS
11AX40MIMO	Ant1	2462	14.27	<=30	PASS
	Ant2	2462	13.81	<=30	PASS
	total	2462	17.10	<=30	PASS
	Ant1	2422	13.92	<=30	PASS
	Ant2	2422	14.06	<=30	PASS
	total	2422	17.00	<=30	PASS
	Ant1	2437	14.02	<=30	PASS
	Ant2	2437	14.06	<=30	PASS
	total	2437	17.10	<=30	PASS
	Ant1	2452	14.07	<=30	PASS
	Ant2	2452	13.74	<=30	PASS
	total	2452	16.90	<=30	PASS

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	13.1	<=30	PASS
		2440	12.82	<=30	PASS
		2480	12.95	<=30	PASS
BLE_2M	Ant1	2402	15.66	<=30	PASS
		2440	13.83	<=30	PASS
		2480	14.87	<=30	PASS
BLE_1M	Ant2	2402	13.07	<=30	PASS
		2440	13.3	<=30	PASS
		2480	12.92	<=30	PASS
BLE_2M	Ant2	2402	15.92	<=30	PASS
		2440	13.74	<=30	PASS
		2480	14.88	<=30	PASS

6. Appendix E

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
3m Semi-Anechoic Chamber	FACT-4	ST08035	WKNA-0024	ETS	2024-12-12
Semi-Anechoic Chamber(5m)	SAC-5	SAC-5-2.0	EM-000557	COMTEST	2024-11-02
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	2024-02-22
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	2024-02-22
EMI Test Receiver	ESR7	102235	VG DY-0956	R&S	2024-02-22
Broadband Antenna	VULB 9163	9163-530	EM-000342	SCHWARZBECK	2023-06-26
Waveguide Horn Antenna	HF906	360306/008	WKNA-0024-8	R&S	2024-02-25
Waveguide Horn Antenna	BBHA9170	00949	EM-000383	SCHWARZBECK	2023-07-31
Loop Antenna	HLA 6121	540046	EM-000546	TESEQ	2024-06-06
Loop Antenna	FMZB1513	1513-170	EM-000384	SCHWARZBECK	2024-02-22
Broadband Antenna(5m)	VULB 9163	9163-676	EM-000382	SCHWARZBECK	2024-05-05
Bandstop Filters	SW-BSF-2400-100 -7-A1	/	EM-000495	/	2023-09-04
5G Bandstop Filters	WRCJV12-4900-5 100-5900-6100-5 OEE	1	DZ-000186	WI	2023-12-06
Spectrum Analyzer	FSV40	101580	DZ-000238-3	R&S	2024-06-04
RF Radio Frequency Switch	JS0806-2	19H9080187	/	Tonscend	2024-06-06

The End